

- GENTILLI, J. 1948. Bioclimatic controls in Western Australia. (*W. Aust. Nat.*, 1: 81-84, 104-107, 120-126.
- HARRIS, A. C. (ed.) 1966. *Forestry in Western Australia*. Revised edition. Forests Department, Perth. 191 pages.
- HEDLEY, C. 1916. A preliminary index of the Mollusca of Western Australia. *J. Roy. Soc. W. Aust.*, 1: 152-226.
- IREDALE, T. 1933. Systematic notes on Australian land shells. *Rec. Aust. Mus.*, 19: 37-59.
- IREDALE, T. 1938. A basic list of the land Mollusca of Australia. Part 3. *Aust. Zool.*, 9: 83-124.
- IREDALE, T. 1939. A review of the land Mollusca of Western Australia. *J. Roy. Soc. W. Aust.*, 25: 1-88, 5 plates. Also published as *Rec. W. Aust. Mus.*, 2: 1-88, 5 plates.
- PILSBRY, H. A. 1894. *Manual of Conchology*. Second series, 9.
- QUOY, J. R. C. and GAIMARD, J. P. 1832. *Voyage de découvertes de l'Asirolabe*. Paris. Zoologie 2. Supplementary atlas 1.
- SOLEM, A. 1959. Systematics and zoogeography of the land and fresh-water molluscs of the New Hebrides. *Fieldiana*, 43: 1-359.
- TRYON, G. W. 1886. *Manual of Conchology*. Second series, 2.

### POSSIBLE NEST OF NIGHT PARROT IN THE PILBARA, W.A.

By N. L. IVES, Applecross

On 14 July, 1970 I found what could have been a nest of the Night Parrot (*Geopsittacus occidentalis*), 10 miles north-east of Balfour Downs homestead (Lat. 22° 45'S., Long. 121°E.) The nest was in a dormant tussock of spinifex (*Triodia*), about four feet in diameter and three feet high. The nest-chamber was reached by a tunnel about three inches in diameter. Starting at ground level on the edge of the tussock, the tunnel at first ascended slightly where the spinifex stems were densest. Towards the centre of the tussock the tunnel descended to ground level and terminated in a chamber about ten inches in diameter. The floor of the chamber was actually on the ground, which was scraped to a depth of half an inch and densely lined with terminal sections of spinifex leaves (or spines) about five inches long. Similar leaves lined the floor of the tunnel but more sparsely and arranged longitudinally. These spinifex leaves were well frayed and clearly had been chewed from a tussock, but not the one in which the nest was built, for I could find no sign of cutting.

The nest was evidently still being built or just completed. Though the soil was fairly hard here, the comings and goings of the bird(s) were well indicated by the freshly incised surface at the approach to the tunnel. Apart from the lining mentioned above, there was nothing in the chamber (i.e. no feathers, droppings or shell fragments).

The nest tussock was one of the largest of the spinifex growing in the immediate vicinity. Generally the spinifex here was small, but towards the creek (where this one was located) the tussocks were moderately large. Apart from the small gums along the creek the prevailing vegetation was spinifex with scattered shrubs.

No Night Parrots were seen here, nor were any feathers found at nearby waters (pools in the creek, and troughs at windmills). Though all the vegetation was quite dormant, growth could soon be expected because of good rains a fortnight earlier. Indeed numerous Crimson Chats had already invaded the area. Very likely the same rains had stimulated the Night Parrots to build.

At about 10 a.m. on the following day, 60 miles to the north-east, we flushed four birds, presumably Night Parrots. My brother and I were each driving a vehicle cross-country from the old Rabbit-Proof Fence east-

wards towards the Throssell Range. As we approached a creek system with scattered gums my vehicle disturbed four parrots from the spinifex. Only my brother (R. D. Ives) in the following vehicle saw the birds. They were bright green, about the size of a Mulga Parrot but heavier in build. They flew swiftly and very low (just clearing the tops of the spinifex) for about 25 yards before dropping from view. Half an hour's search failed to find them. No calls were heard.

This second area had evidently received some patchy rain. Where the birds were flushed there was a few hundred acres of spinifex in seed. No surface water was found in the immediate vicinity, but there is a large rockhole four miles northwards in the Throssell Range. The perennial vegetation consisted almost solely of spinifex, apart from the belt of scattered gums which we were about to enter.

I have discussed these observations with Dr. G. M. Storr of the Western Australian Museum who, believing they almost certainly apply to the Night Parrot, has urged me to publish them.

## AN EXPLORATORY INVESTIGATION OF THE GROWTH RINGS OF *CALLITRIS PREISSII* TREES FROM GARDEN ISLAND AND NAVAL BASE

By G. I. PEARMAN, Department of Botany, University of Western Australia, Nedlands, 6009.\*

Analysis of growth rings in trees has been used extensively in the northern hemisphere in order to determine the age of timber of archaeological interest and of trends in past climate. As the growth of the timber is dependent on a large number of environmental factors it is not surprising that a correlation can be demonstrated between the width of growth rings and parameters such as rainfall and temperature. It is also evident that, because of the complexity of the interaction of influencing factors, the correlation with any one factor is not necessarily very high. For a discussion of this and other aspects of the sciences of dendrochronology and dendroclimatology the reader is referred to Fritts (1965, 1969).

Preliminary measurements of the growth ring widths of *Callitris preissii* Miq. were made by students during the 1969 Botany Department field camp at Garden Island. These results proved to be encouraging and the author carried out further measurements on trees of the same species on the adjacent mainland at Naval Base. The aims of the investigation were to determine the suitability of this species for growth ring studies; to make estimates of the age structure of the stands in the two locations; and to determine whether cyclic patterns of wood growth are present which might act as indicators of past climatic conditions in the area.

### METHODS AND RESULTS

An increment corer was used to extract cylindrical cores of timber (approximately 4 mm diameter) from twenty trees growing on the north end of Garden Island, and twelve trees at Naval Base. The cores were removed from the trees about 50 cm above soil level, and following removal the holes were plugged with wooden pegs soaked in fungicide. The cores were placed on the stage of a sliding microscope so that measurements could be made of the width of individual growth rings (measured to 0.005 mm). It was found unnecessary to apply any special treatment to see the rings distinctly.

In order to best display the general trends indicated by the results, the data were smoothed. The smoothed width of a ring of measured width  $b$  was taken as  $\frac{1}{3}(a + 2b + c)$  where  $a$  and  $c$  were the measured widths of the immediately adjacent rings.

It is usually found that the width of growth rings decreases towards the outside of the trunk, and this was demonstrated in the case of the

\* Present address: C.S.I.R.O. Division of Meteorological Physics, Aspendale, Victoria.